



## SEQUENCE LISTING

<110> Curtis, Rory A.J., Lora, Jose M.  
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ggc cag gag ctg cgc aag gag gcg gag gca ttc cta gag aag tac gga 448  
Gly Gln Glu Leu Arg Lys Glu Ala Glu Ala Phe Leu Glu Lys Tyr Gly  
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tac ctc aat gaa cag gtc ccc aaa gct ccc acc tcc act cga ttc agc 496  
Tyr Leu Asn Glu Gln Val Pro Lys Ala Pro Thr Ser Thr Arg Phe Ser  
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gat gcc atc aga gcg ttt cag tgg gtg tcc cag cta cct gtc agc gcc 544  
Asp Ala Ile Arg Ala Phe Gln Trp Val Ser Gln Leu Pro Val Ser Gly  
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gtg ttg gac cgc gcc acc ctg cgc cag atg act cgt ccc cgc tgc ggg 592  
Val Leu Asp Arg Ala Thr Leu Arg Gln Met Thr Arg Pro Arg Cys Gly  
80 85 90  
gtt aca gat acc aac agt tat gcg gcc tgg gct gag agg atc agt gac 640  
Val Thr Asp Thr Asn Ser Tyr Ala Ala Trp Ala Glu Arg Ile Ser Asp  
95 100 105  
ttg ttt gct aga cac cgg acc aaa atg agg cgt aag aaa cgc ttt gca 688  
Leu Phe Ala Arg His Arg Thr Lys Met Arg Arg Lys Lys Arg Phe Ala  
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Arg Asn Leu Phe Val Val Leu Ala His Glu Ile Gly His Thr Leu Gly	
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ctc acc cac tcg ccc gcg ccg cgc gcg ctc atg gcg ccc tac tac aag	880
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agg ctg ggc cgc gac gcg ctg ctc agc tgg gac gac gtg ctg gcc gtg	928
Arg Leu Gly Arg Asp Ala Leu Leu Ser Trp Asp Asp Val Leu Ala Val	
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cag agc ctg tat ggg aag ccc cta ggg ggc tca gtg gcc gtc cag ctc	976
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Gly Ser His Phe Trp Glu Val Ala Ala Asp Gly Asn Val Ser Glu Pro	
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cgt cca ctg cag gaa aga tgg gtc ggg ctg ccc ccc aac att gag gct	1216
Arg Pro Leu Gln Glu Arg Trp Val Gly Leu Pro Pro Asn Ile Glu Ala	
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Val Leu Ala Arg Gly Gly Leu Gln Val Glu Pro Tyr Tyr Pro Arg Ser	
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Leu Gln Asp Trp Gly Gly Ile Pro Glu Val Ser Gly Ala Leu Pro	
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agg ccc gat ggc tcc atc atc ttc ttc cga gat gac cgc tac tgg cgc	1552
Arg Pro Asp Gly Ser Ile Ile Phe Phe Arg Asp Asp Arg Tyr Trp Arg	
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Leu Asp Gln Ala Lys Leu Gln Ala Thr Thr Ser Gly Arg Trp Ala Thr	
415 420 425	
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Glu Leu Pro Trp Met Gly Cys Trp His Ala Asn Ser Gly Ser Ala Leu	
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Phe	
445	
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gtttcttcgg ctaaaggtac agttcccttc aagaggtaac agcactggga tccaagcagg 2001
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35 40 45
Gln Val Pro Lys Ala Pro Thr Ser Thr Arg Phe Ser Asp Ala Ile Arg
50 55 60
Ala Phe Gln Trp Val Ser Gln Leu Pro Val Ser Gly Val Leu Asp Arg
65 70 75 80
Ala Thr Leu Arg Gln Met Thr Arg Pro Arg Cys Gly Val Thr Asp Thr
85 90 95
Asn Ser Tyr Ala Ala Trp Ala Glu Arg Ile Ser Asp Leu Phe Ala Arg
100 105 110
His Arg Thr Lys Met Arg Arg Lys Lys Arg Phe Ala Lys Gln Gly Gly
115 120 125
Ala Leu Ala His Ala Phe Leu Pro Arg Arg Gly Glu Ala His Phe Asp
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Gln Asp Glu Arg Trp Ser Leu Ser Arg Arg Arg Gly Arg Asn Leu Phe
145 150 155 160
Val Val Leu Ala His Glu Ile Gly His Thr Leu Gly Leu Thr His Ser
165 170 175
Pro Ala Pro Arg Ala Leu Met Ala Pro Tyr Tyr Lys Arg Leu Gly Arg
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Asp Ala Leu Leu Ser Trp Asp Asp Val Leu Ala Val Gln Ser Leu Tyr
195 200 205
Gly Lys Pro Leu Gly Gly Ser Val Ala Val Gln Leu Pro Gly Lys Leu
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Phe Thr Asp Phe Glu Thr Trp Asp Ser Tyr Ser Pro Gln Gly Arg Arg
225 230 235 240
Pro Glu Thr Gln Gly Pro Lys Tyr Cys His Ser Ser Phe Asp Ala Ile
245 250 255
Thr Val Asp Arg Gln Gln Gln Leu Tyr Ile Phe Lys Gly Ser His Phe
260 265 270
Trp Glu Val Ala Ala Asp Gly Asn Val Ser Glu Pro Arg Pro Leu Gln
275 280 285
Glu Arg Trp Val Gly Leu Pro Pro Asn Ile Glu Ala Ala Val Ser
290 295 300
Leu Asn Asp Gly Asp Phe Tyr Phe Phe Lys Gly Gly Arg Cys Trp Arg
305 310 315 320
Phe Arg Gly Pro Lys Pro Val Trp Gly Leu Pro Gln Leu Cys Arg Ala
325 330 335
Gly Gly Leu Pro Arg His Pro Asp Ala Ala Leu Phe Phe Pro Pro Leu
340 345 350
Arg Arg Leu Ile Leu Phe Lys Gly Ala Arg Tyr Tyr Val Leu Ala Arg
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Gly Gly Leu Gln Val Glu Pro Tyr Tyr Pro Arg Ser Leu Gln Asp Trp
370 375 380
Gly Gly Ile Pro Glu Glu Val Ser Gly Ala Leu Pro Arg Pro Asp Gly
385 390 395 400
Ser Ile Ile Phe Phe Arg Asp Asp Arg Tyr Trp Arg Leu Asp Gln Ala
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Trp Gly His Leu Asp Ala Gln Pro Ala Glu Arg Gly Gly Gln Glu Leu
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cgc aag gag gcg gag gca ttc cta gag aag tac gga tac ctc aat gaa 144
Arg Lys Glu Ala Glu Ala Phe Leu Glu Lys Tyr Gly Tyr Leu Asn Glu
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cag gtc ccc aaa gct ccc acc tcc act cga ttc agc gat gcc atc aga 192
Gln Val Pro Lys Ala Pro Thr Ser Thr Arg Phe Ser Asp Ala Ile Arg
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Ala Phe Gln Trp Val Ser Gln Leu Pro Val Ser Gly Val Leu Asp Arg
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gcc acc ctg cgc cag atg act cgt ccc cgc tgc ggc gtt aca gat acc 288
Ala Thr Leu Arg Gln Met Thr Arg Pro Arg Cys Gly Val Thr Asp Thr
85 90 95

aac agt tat gcg gcc tgg gct gag agg atc agt gac ttg ttt gct aga 336
Asn Ser Tyr Ala Ala Trp Ala Glu Arg Ile Ser Asp Leu Phe Ala Arg
100 105 110

cac cgg acc aaa atg agg cgt aag aaa cgc ttt gca aag caa ggg ggc 384
His Arg Thr Lys Met Arg Arg Lys Lys Arg Phe Ala Lys Gln Gly Gly
115 120 125

gcc ctg gcg cac gcc ttc ctg ccc cgc cgc ggc gaa gcg cac ttc gac 432
Ala Leu Ala His Ala Phe Leu Pro Arg Arg Gly Glu Ala His Phe Asp
130 135 140

caa gat gag cgc tgg tcc ctg agc cgc cgc cgc ggc ggc aac ctg ttc 480
Gln Asp Glu Arg Trp Ser Leu Ser Arg Arg Arg Gly Arg Asn Leu Phe
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gtg gtg ctg gcg cac gag atc ggt cac acg ctt ggc ctc acc cac tcg 528
Val Val Leu Ala His Glu Ile Gly His Thr Leu Gly Leu Thr His Ser
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ccc gcg ccg cgc gcg ctc atg gcg ccc tac tac aag agg ctg ggc cgc 576
Pro Ala Pro Arg Ala Leu Met Ala Pro Tyr Tyr Lys Arg Leu Gly Arg
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Asp Ala Leu Leu Ser Trp Asp Val Leu Ala Val Gln Ser Leu Tyr
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act gta gac agg caa cag caa ctg tac att ttt aaa ggg agc cat ttc 816
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ggg	ggc	ctg	ccc	cgc	cat	cct	gac	gcc	gcc	ctc	ttc	ttc	cct	cct	ctg	1056	
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Ser	Ile	Ile	Phe	Phe	Arg	Asp	Asp	Arg	Tyr	Trp	Arg	Leu	Asp	Gln	Ala		
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Lys	Leu	Gln	Ala	Thr	Thr	Ser	Gly	Arg	Trp	Ala	Thr	Glu	Leu	Pro	Trp		
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 Leu Glu Val Met Lys Lys Pro Arg Cys Gly Val Pro Asp Val Gly Glu  
 50 55 60  
 Phe Arg Thr Phe Pro Gly Ser Pro Lys Trp Ser Lys Asn Asn Leu Leu  
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 Thr Tyr Arg Ile Val Asn Tyr Thr Pro Asp Leu Pro Arg Glu Asp Val  
 85 90 95  
 Asp Asp Ala Ile Arg Arg Ala Phe Gln Val Trp Ser Asp Val Thr Pro  
 100 105 110  
 Leu Thr Phe Thr Arg Val Ser Asp Gly Glu Ala Asp Ile Met Ile Ser  
 115 120 125  
 Phe Ala Arg Gly Glu His Gly Asp Phe Tyr Pro Phe Asp Gly Lys Gly  
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 Glu Glu Asp Leu Gln Phe Ala Glu Arg Tyr Leu Arg Ser Tyr Tyr His  
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 Pro Thr Asn Leu Ala Gly Ile Leu Lys Glu Asn Ala Ala Ser Ser Met  
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 65 70 75 80  
 Gly Lys Leu Asp Asp Asn Thr Leu Asp Val Met Lys Lys Pro Arg Cys  
 85 90 95  
 Gly Val Pro Asp Val Gly Glu Tyr Asn Val Phe Pro Arg Thr Leu Lys  
 100 105 110  
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 115 120 125  
 Met Thr His Ser Glu Val Glu Lys Ala Phe Lys Lys Ala Phe Lys Val  
 130 135 140  
 Trp Ser Asp Val Thr Pro Leu Asn Phe Thr Arg Leu His Asp Gly Ile  
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 Ala Asp Ile Met Ile Ser Phe Gly Ile Lys Glu His Gly Asp Phe Tyr  
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 Pro Phe Asp Gly Pro Ser Gly Leu Leu Ala His Ala Phe Pro Pro Gly  
 180 185 190  
 Pro Asn Tyr Gly Gly Asp Ala His Phe Asp Asp Asp Glu Thr Trp Thr  
 195 200 205  
 Ser Ser Ser Lys Gly Tyr Asn Leu Phe Leu Val Ala Ala His Glu Phe  
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 Gly His Ser Leu Gly Leu Asp His Ser Lys Asp Pro Gly Ala Leu Met  
 225 230 235 240  
 Phe Pro Ile Tyr Thr Tyr Thr Gly Lys Ser His Phe Met Leu Pro Asp  
 245 250 255  
 Asp Asp Val Gln Gly Ile Gln Ser Leu Tyr Gly Pro Gly Asp Glu Asp  
 260 265 270  
 Pro Asn Pro Lys His Pro Lys Thr Pro Asp Lys Cys Asp Pro Ser Leu  
 275 280 285  
 Ser Leu Asp Ala Ile Thr Ser Leu Arg Gly Glu Thr Met Ile Phe Lys  
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 Asp Arg Phe Phe Trp Arg Leu His Pro Gln Gln Val Asp Ala Glu Leu  
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 Ala Val His Phe Glu Asp Thr Gly Lys Thr Leu Leu Phe Ser Gly Asn  
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 Gln Val Trp Arg Tyr Asp Asp Thr Asn His Ile Met Asp Lys Asp Tyr  
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Pro Arg Leu Ile Glu Glu Asp Phe Pro Gly Ile Gly Asp Lys Val Asp  
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 Ala Val Tyr Glu Lys Asn Gly Tyr Ile Tyr Phe Phe Asn Gly Pro Ile  
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 M, F, Y, C, W, or H.  
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 M, F, Y, C, W, or H.  
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 ctctccgtgc gggggcggcg cagagcagtc ccateccccg ggtccccggc gcggctgact 240  
 gccggctggt tccctgcgcg cagtagctcc ccgagccggg ctgcaccgga ggcggcgag 299  
 atg gtc gcg cgc gtc gcc ctg ctg cgc gcc ctg cag ctg cta ctg 347  
 Met Val Ala Arg Val Gly Leu Leu Leu Arg Ala Leu Gln Leu Leu Leu  
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 Trp Gly His Leu Asp Ala Gln Pro Ala Glu Arg Gly Gly Gln Glu Leu  
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 cgc aag gag gcg gag gca ttc cta gag aag tac gga tac ctc aat gaa 443  
 Arg Lys Glu Ala Glu Ala Phe Leu Glu Lys Tyr Gly Tyr Leu Asn Glu  
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cac cgg acc aaa atg agg cgt aag aaa cgc ttt gca aag caa ggt aac His Arg Thr Lys Met Arg Arg Lys Lys Arg Phe Ala Lys Gln Gly Asn 115 120 125	683
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cat ctg ccc gag ccc gca gtt cgg ggc gcc gtg cgc gcc gcc ttc cag His Leu Pro Glu Pro Ala Val Arg Gly Ala Val Arg Ala Ala Phe Gln 145 150 155 160	779
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 His Arg Thr Lys Met Arg Arg Lys Lys Arg Phe Ala Lys Gln Gly Asn  
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Lys Trp Tyr Lys Gln His Leu Ser Tyr Arg Leu Val Asn Trp Pro Glu  
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 Gly Pro Ala Asp Ile Arg Leu Thr Phe Phe Gln Gly Asp His Asn Asp  
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 Gly Leu Gly Asn Ala Phe Asp Gly Pro Gly Gly Ala Leu Ala His Ala  
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 Phe Leu Pro Arg Arg Gly Glu Ala His Phe Asp Gln Asp Glu Arg Trp  
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 Ser Leu Ser Arg Arg Arg Gly Arg Asn Leu Phe Val Val Leu Ala His  
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 Glu Ile Gly His Thr Leu Gly Leu Thr His Ser Pro Ala Pro Arg Ala  
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 Arg Lys Glu Ala Glu Ala Phe Leu Glu Lys Tyr Gly Tyr Leu Asn Glu 45  
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 Gln Val Pro Lys Ala Pro Thr Ser Thr Arg Phe Ser Asp Ala Ile Arg 60  
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